

# CHANGING CHICKEN IN GUATEMALA

Relevance of poultry to income generation, food security, health, and nutrition



## A GUIDANCE MEMO

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# ABOUT THE AUTHOR AND THE TINY BEAM FUND

Helping to understand and address the complex problem of industrial food animal production around the globe

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## DISCLAIMER



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This Guidance Memo documents the changes in poultry production, trade, and consumption in Guatemala. While discussing earlier poultry history, the memo focuses on the rise of chicken and eggs to per capita consumption of 50 pounds of chicken and 325 eggs in 2019. The memo aims to go beyond the usual suspects in understanding the factors that have contributed to this change. It shows the efforts that businesses undertook to grow the industry. This includes lobbying for favorable domestic tax environments, undertaking marketing campaigns that linked some brands to the national identity, and achieving trade liberalization policies that aided both domestic poultry production and the in-flow of American chicken products. The memo goes on to assess against available evidence industry claims of providing for the food security, nutrition, and food safety of the population. It shows that industrial poultry displaces the markets for backyard creole chicken and eggs, thus undermining the income-generating activities of indigenous and non-indigenous women. It also shows that while chicken is cheaper than other meats, it is a significantly more expensive source of protein compared with native plants that are rich in protein, minerals, and vitamins. It details how industry claims of providing chicken of superior hygiene fall short because of retail spaces that lack basic sanitation infrastructures. The document ends with practical recommendations for frontline persons working to improve the lives of Guatemala's marginalized communities. The memo thus demonstrates the relevance of poultry to development goals like income generation, greater food security, and better health and nutrition.

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# CHANGING CHICKEN IN GUATEMALA

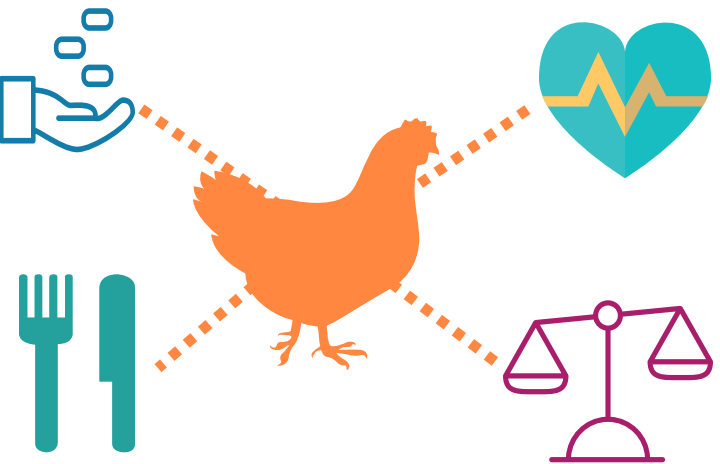
## Beyond the usual suspects

— Distinguishing myths from fact in the history of poultry in Guatemala.

Guatemala has seen a transformation in the population's consumption of chicken. Chicken has gone from meat derived from household production that was eaten on occasion to a dietary staple that is bought from industrial poultry suppliers. The pace of this change has been fast. It has occurred in around 50 years, although the story of chicken in Guatemala goes back at least 500 years.

Few organizations focus on chicken and egg production and consumption in their work in Guatemala. Yet poultry affects many aspects of development efforts, including income generation, food security, health, and nutrition. This Guidance Memo demonstrates the relevance of changing chicken to frontline persons working to improve the conditions of life for Guatemala's people.

The Memo dispels common myths about the role of industrial chicken in nutrition, health, and food security by offering the latest data and evidence from biological and social sciences. It finishes by providing practical recommendations for frontline persons looking to reform or transform poultry production and consumption practices at the individual, community, industry, and policy levels.



## Guidance for frontline persons

This Guidance Memo charts the rise of industrial poultry in Guatemala. It is organized into six sections:

- I. CHANGES IN CHICKEN** is a short introduction to the colonial and neocolonial origins of poultry in Guatemala.
- II. TRADE** traces the formal and informal flows of chicken and eggs into Guatemala and the policies that affect them.
- III. POULTRY POWER** details the rise of and concentration in the domestic poultry sector in Guatemala.
- IV. POULTRY ADVERTISING** problematizes the Guatemalan poultry industry's marketing of the national identity and its self-promotion as contributing to food security and nutrition.
- V. HEALTH & HYGIENE** shows that poor hygiene infrastructures trouble industry claims of safe poultry.
- VI. STRATEGIES FOR CHANGING CHICKEN** distills the policy and practice takeaways from the Guidance Memo.

INTRODUCTION  
TO  
CHANGING  
CHICKEN  
IN  
GUATEMALA

# CHANGES IN CHICKEN

## From an occasional meal to a dietary mainstay

- The first industrial poultry plant in Guatemala opened in 1964. By 2019, citizens consumed on average 50 lbs of chicken and 325 eggs each per annum.

The story of chicken in Guatemala goes back at least to the Spanish conquest. Yet, during the 20th century, wealthy immigrants industrialized the production of the bird using techniques borrowed from the United States. In this way, chicken in Guatemala has always been linked to colonial and neocolonial enterprise.

### Chicken as a Colonial Meat

Pre-conquest inhabitants of Mesoamerica domesticated various species of turkeys and ducks and consumed small game, insects, and other native food animals (1). Backyard chicken production became practiced in the Spanish colonies in the Americas since around the 16th century (2). Chickens, pigs, and cows were introduced to Mesoamerica during the Columbian Exchange (and chickens possibly came even earlier through trade with Polynesian seafarers, although the archaeological debate on this matter is not settled (3)). Larger creatures, like cattle and pigs, were incompatible with Mayan farming practices because the animals trampled cornfields, so their production remained largely in the hands of Europeans and mestizos well into the 19th century (4). Chickens, however, spread quickly among indigenous households because they easily fit into existing patterns of domestic food production and displaced the native turkey as the preferred bird in many parts of Mesoamerica (5).

Guatemalans have for centuries bred chickens, so that over time the birds became adapted to the niche climatic, topographic, and social conditions that characterize different parts of Guatemala and its diverse communities. This has contributed to the biodiversity of the country (6). The numerous varieties of *creole* birds that campesinos have maintained have also become integral parts of indigenous and non-indigenous families all around Latin America (7a, 7b, 7c). Eggs and occasional chicken meat (when social festivities called for the slaughtering of animals for food) have provided vital sources of family food security and nutrition in Guatemala and other countries (6).

### Chicken as a Neocolonial Meat

For centuries, chickens and eggs were produced largely by households for personal consumption. However, as this Guidance Memo documents, that began to change from the 1960s when immigrant and Guatemalan entrepreneurs traveled to the United States to learn industrial chicken production and fast-food cooking techniques. The economic interests organized to create favorable domestic policy environments to grow their businesses in fresh and processed poultry, egg, and fast-chicken. The businesses grew throughout Guatemala's 1960-1996 Civil War and genocide against the civilian population, especially the Maya, that left more than 200,000 people dead or disappeared and one million displaced at the hands of the state. By 2016, 65% of the animal protein eaten in the country came from poultry (8). By 2019, Guatemalans consumed 50 lbs of chicken and 325 eggs each per year (9). This rise has been accompanied by a decline in the market share of in-home production of poultry. While in 2015 43% of domestic chicken production was estimated to come from backyard sources (10), by 2018 that figure was 32% (11). Meanwhile, the diversity of poultry races sold in municipal markets has vastly reduced (12).

While hundreds of creole chicken varieties have been documented in Guatemala and other countries, the poultry industry uses only 17 breeds of broiler chickens and 4 breeds of egg-laying breeds (13). Birds that are used in factory farming differ fundamentally from their relatives. Contemporary chickens bred for industrial production are twice as large as their domesticated cousins of the Medieval period and five times as heavy as their counterparts from the 1950s. Meanwhile, "the skeletal morphology, pathology, bone geochemistry and genetics of modern broilers are demonstrably different to those of their ancestors" (14). Industrial birds cannot survive without human intervention. The combined biomass of the global population of 22.7 billion chickens is larger than the biomass of all other bird species combined. On the world scale, the industrial broiler has been so altered in its appearance, habits, and numbers that it has become a marker of human effects on the biosphere (14).



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# Formal and informal flows of industrial chicken and eggs to Guatemala

— In two decades, the value of American chicken imports into Guatemala grew by **2,300%**, from **\$5 million in 1996 to \$120 million in 2017**

There are two sides to the international supply of poultry to Guatemala:

- Formal imports of fresh and frozen chicken parts, mainly from the United States, and
- Nonregulated flows of chicken and eggs from Mexico and other neighboring countries.

## Trade policy and U.S. poultry imports into Guatemala

Trade policy has played a large role in shaping poultry availability and consumption in Guatemala. The United States is a major chicken trading partner of Guatemala, especially since the 1996 Peace Accords, which were accompanied by the trade liberalization policies of:

- 1) Increased quotas and lowered tariffs that augmented fresh and frozen poultry imports;
- 2) Lowered trade barriers to the import of yellow feed corn for use by domestic industrial poultry producers;
- 3) Reduced barriers to investments that stimulated processed food industries, including those using poultry ingredients (1).

The second phase of trade liberalization began in August 2004 with the signing of the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) between the United States, the Dominican Republic, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. In Guatemala, the agreement went into effect on July 1, 2006.



Tariff-free bilateral trade of consumer goods is one portion of the CAFTA-DR agreement with the goal of 95% of U.S. products entering the country duty-free by 2022 (2).

In 2017, five years ahead of schedule, Guatemala eliminated all tariffs on imported frozen chicken-leg quarters, which are a byproduct of breast production in the U.S. The chicken leg quarters were responsible for the sharp increase in poultry to the region compared with other meats. By 2008, they made up 30% of American poultry exports into CAFTA-DR countries (1).

Guatemala saw the largest increases in imports and per capita consumption of poultry compared with other countries because it progressively increased import quotas and reduced tariffs, starting in 1997:

## Chicken production, trade, and consumption 1995-2017

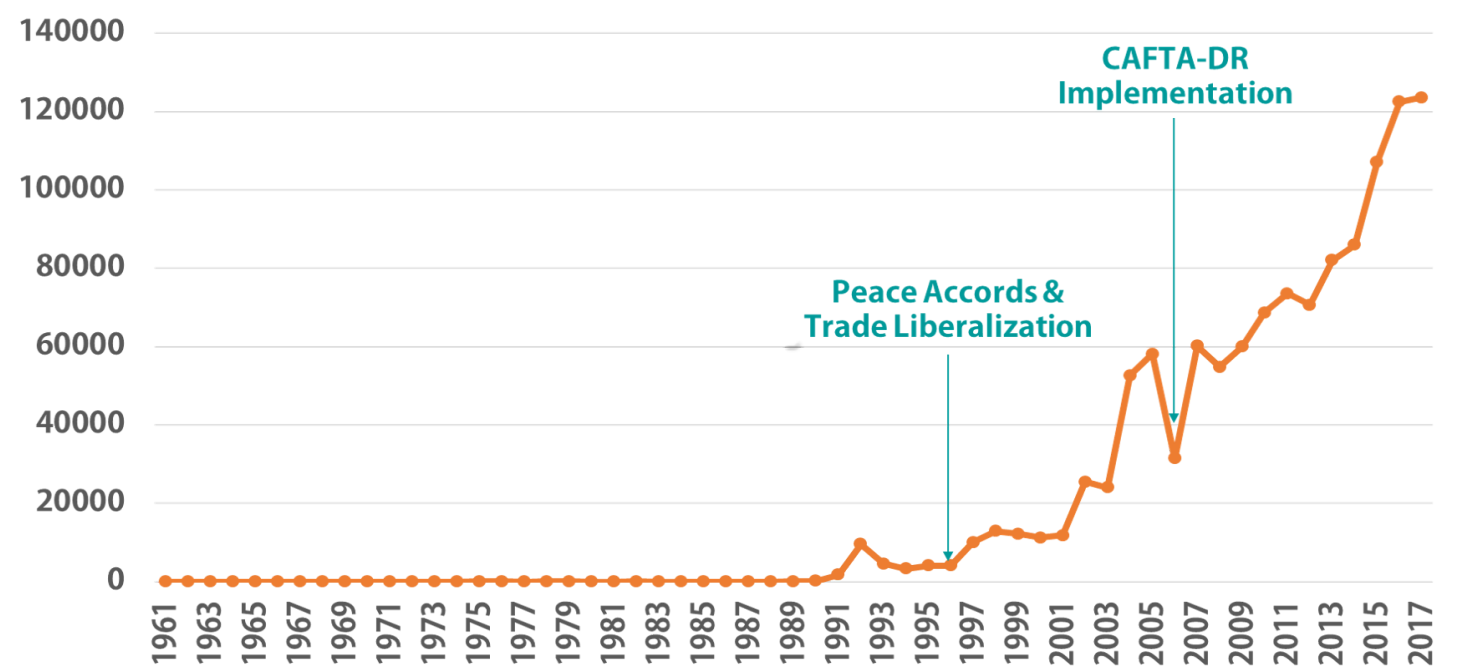
Year	Domestic Production of Broiler Meat (metric tons, MT)	Annual Import Quota	In-Quota Tariff	Out-of-Quota Tariff	Value of Chicken Imports from U.S.	Annual Consumption of Poultry in Guatemala (per capita)
1995	no data	3,600 MT	20%	50%	\$5 mn	no data
1997	130,000 MT	7,000 MT	15%	no data	\$10 mn	29 lbs
2005	150,000 MT	39,452 MT	5%	15%	\$48.8 mn	36 lbs
2017	200,000 MT	no limits	0%	0%	\$120 mn	44 lbs

Data compiled from sources 1-5.



Both rounds of trade liberalization were followed by periods of growth in the imports of chicken into Guatemala. Pre-Peace-Accords trade peaked at 4,104 metric tons in 1995. In 1997, imports more than doubled to 10,070 metric tons after the implementation of trade liberalization the year prior. Chicken imports continued to rise until the 2006 CAFTA-DR implementation and have kept up pace since. In 2017, Guatemala imported 123,620 metric tons of chicken meat.

## Guatemala's chicken imports 1961-2017 (MT)



Data sourced from FAOSTAT (January 2020).

The U.S. supplies 93% of Guatemala's poultry imports, which, in turn, account for 20-30% of national chicken consumption (3). Guatemala is America's fifth-largest chicken importer (after Mexico, Canada, China, and Cuba). It imported US\$123.2 million of poultry meat and products in 2018, which made up almost 28% of all consumer-oriented agricultural products that Guatemala imported from the U.S. that year (6).

This trade is possible partly because chicken production in the United States is highly subsidized, so the sector can export cheap poultry around the world. Dollar for dollar, chicken can cost less in the United States than in Guatemala. In April 2017, for example, 1 pound of chicken breast in an Atlanta supermarket cost \$1.99 while in a supermarket in the Guatemalan city of Quetzaltenango it cost \$2.29 (7).

With predictions for continued growth in domestic demand for poultry products, industry experts name chicken cuts and processed meats among the best food prospects for U.S. industry in Guatemala (8). Some of that demand comes from American food businesses.

### 25 U.S. Franchises Operate in Guatemala

The first foreign franchise to open in Guatemala was Pizza Hut in 1969, but the real boom in the sector occurred in the last 10 years. Today, 30 U.S. chains operate in the country in a franchising market that grows by 15% every year. Of those 30, 25 are food and drink chains, including McDonald's, KFC, Wendy's, Subway, Starbucks, Carl's Junior, Panda Express, Dunkin Donuts, and Dairy Queen. Some of these businesses locally source products like fruits and vegetables. However, according to the U.S. Department of Commerce, the majority import ingredients, like chicken, either directly or through distributors in order to comply with international quality standards and franchise agreements (9).



# Corn and "contraband" impact chicken in Guatemala

- Illicit imports of chicken from Mexico are likely worth more than formal U.S. trade.

Chicken has risen from a relatively-unpopular meat in Guatemala in the 1970s to consumption levels of 29 pounds per person in 1997 and 50 pounds per capita in 2019. Poultry imports have contributed to this change in how much chicken Guatemalans eat. However, most of the increase in domestic poultry consumption has come from the rise in the production of factory-farmed chicken within Guatemala. The sector contributes 2% to Guatemala's GDP and employs 35,000 people (5).

## Imported corn feeds industrial poultry at home

National poultry production increased by 54% in two decades, from 130,000 tons in 1997 to 200,000 tons in 2017. Trade policy impacted this shift because Guatemala significantly reduced barriers to the import of yellow corn, which is mixed with soybean meal to produce chicken feed. In 2018, 34% of corn consumed in Guatemala was yellow feed-corn, with imports from America reaching 1.12 million metric tons (10).

## Informal chicken and eggs from Mexico

Formal domestic production and sanctioned imports tell only one part of the story. Unregulated flows of goods from neighboring countries are worth 12-20% of Guatemala's market for agricultural products, with poultry playing a key role (11). It is estimated that every week in 2019, 400,000 chickens crossed the border illicitly from Mexico, equaling 20.8 million birds for the year (12). This trade was worth around \$130 million, more than the total value of U.S. chicken imports for the same year.

The U.S. does not export eggs to Guatemala because American eggs are washed, requiring refrigeration that Guatemalan eggs do not. However, illicit imports of unwashed Mexican eggs account for 20% of national egg consumption (13). In March of 2017, the poultry-industry group, ANAVI, introduced green cartons for Guatemalan eggs, urging consumers to buy "100% national."



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# POULTRY POWER

## The rise of and concentration in domestic chicken and egg business

- A handful of well-organized companies control most of the domestic poultry sector.

The rise of domestic industrial poultry in Guatemala can be traced back to the 1960s and 1970s when it operated exempt from almost all taxes through "The Poultry Development Law" (Decree 1331). Today, the sector is concentrated in the hands of a few companies whose leaders are powerful players in business and politics.

### 1. Pollo Rey and Pollo Campero

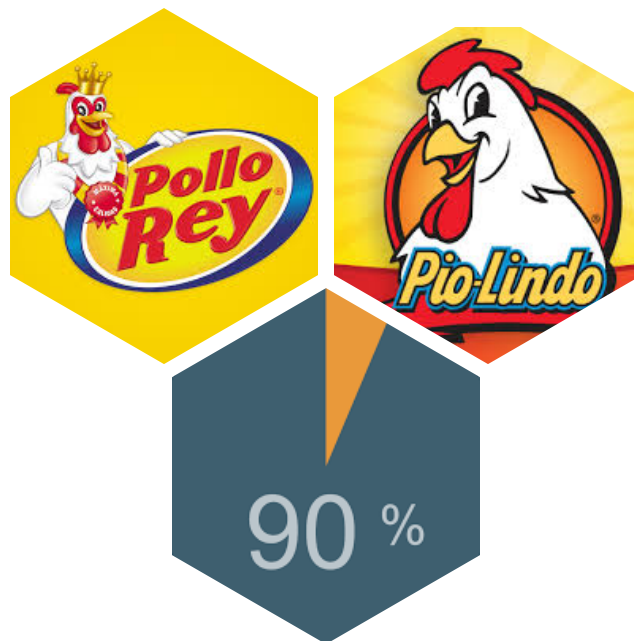
Pollo Rey is a brand that makes up 58% of Guatemala's domestic market for processed chicken (and 5.2% of the country's entire processed meats sector) (1). Pollo Campero is the nation's leading fast-food chain. It sells fried and grilled chicken meals from more than 120 sit-down restaurant locations and almost 200 takeout stores.

Pollo Rey and Pollo Campero are just two brands in the portfolio of the Guatemalan mega-conglomerate, Corporación Multi Inversiones (CMI). The official corporate history details how the company grew out of a convenience store opened in 1920 by the Spanish transplant, Juan Batista Gutiérrez, who emigrated to Guatemala in 1902. In 1936 he and his family started a flour milling business under the brand of Molino Excelsior and in 1964 they opened Guatemala's first poultry farming operation, Granja Villalobos. Looking to develop markets for its chicken products, the group opened the first Pollo Campero restaurant in Guatemala in 1971. Today, Pollo Campero has restaurants in 77 major U.S. cities and more than 100 other locations worldwide.

Chicken and flour milling is but a part of CMI's operations. The company entered real estate in the 1980s, financial services in the 1990s, energy in the 2000s, and telecommunications and hotels in the 2010s. Today, CMI employs over 40,000 workers in 15 countries. CMI has remained a family-owned business. The Gutiérrezes are among Guatemala's 260 millionaires whose combined wealth equals to 56% of the country's GDP (2).

### 2. Pio Lindo

Pio Lindo is second to Pollo Rey in the national fresh poultry sector, representing 31.5% of the domestic market (1). The brand belongs to Grupo PAF, a company ran by Domingo Moreira. Moreira's father established the company in 1958 after emigrating to Guatemalan from Cuba where he ran 25 chicken restaurants. Today, Grupo PAF is a leader in the production of poultry, pork, seafood, and other foods in Guatemala and for export to the United States.



*Together, Pollo Rey and Pio Lindo account for 90% of national fresh and processed chicken.*

### 3. ANAVI and the Poultry Lobby

CMI and Grupo PAF are leaders in the National Association of Aviculturists of Guatemala (ANAVI). Formed in 1973, the business consortium claims to represent more than 200 egg, chicken, and turkey enterprises with more than 600 factory farms in the country (3). The egg industry is additionally organized within the Association of Egg Producers of Guatemala, the Union of Egg Producers, and the Union of Aviculturists of the South (4). These and other businesses are also represented in the Guatemalan Industrial Chamber, The Foundation for the Development of Guatemala (FUNDESA), and the Coordinating Committee of Agriculture, Commerce, Industry, and Finance Associations (CACIF). CMI's co-president, Juan Luis Bosch Gutiérrez, has served as CACIF's president. CACIF has been found to have more influence on congressional votes than the deputies' political parties (5).

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# POULTRY ADVERTISING

## Selling chicken, selling nationalism

- Pollo Campero has run the slogan "As Guatemalan as You" since the 1970s.



Pollo Campero is the leading fast-food brand in Guatemala, serving 80 million dishes a year in a country of 16 million consumers. It enjoys largely positive associations among Guatemalans of all backgrounds as a treasured national brand and a particularly Guatemalan way of eating out. The company has crafted this image from its founding in 1971 when the first Pollo Campero restaurant opened its doors. The brand continues to promote a proud national identity of Guatemalans united in eating Pollo Campero chicken. Yet, the vision of its advertising campaigns is frequently out of step with the local social reality.

### Creating a National Brand Image

Francisco Pérez de Antón developed the Pollo Campero business and its fried chicken's characteristic flavor. The Spaniard came to Guatemala in 1963 to marry the Quetzaltenango-born María Consuelo Gutiérrez, the grand-niece of CMI's founder, Juan Batista Gutiérrez. Pérez de Antón first worked at the Gutiérrez's poultry factory, which needed new outlets for its products. Chicken was not popular at the time, so Pérez de Antón experimented by frying chicken from the back of a pickup truck outside a movie theatre. In a 2019 BBC interview, Pérez de Antón recalled that he was overwhelmed by his success as people flocked to the food. "I sold 700 portions in a week," he said (1).

Seeing an opportunity to grow the business, Pérez de Antón travelled to the United States to learn chicken frying techniques and to create a flavor he deemed suitable for the Guatemalan market. He settled on an ingredient to enhance the juiciness of the chicken, an additive that he jokes made the chicken "addictive." After some years of success, Gutiérrez's son, Dionisio and his cousin Juan Batista Gutiérrez, invested US\$1,500 to open the first Pollo Campero restaurant in 1971.

The popularity of the restaurant model was not the only surprise Pérez de Antón remembers. The diversity of customers attracted to Pollo Campero was also unexpected. While he initially imagined advertising to the middle classes, Pérez de Antón decided to aim for a bigger societal catchment area by appealing to the national Guatemalan identity. He coined the nationalistic slogan "*Tan Guatemalteco Como Tú*," "As Guatemalan as You." The company continues to use the slogan to this day, along with others it has since developed, like "A Taste of Who We Are" and "Feeding Your Love for Guatemala."

*Some of Pollo Campero's Slogans in Guatemala:*

"As Guatemalan as you"

"A taste of who we are"

"Feeding your love for Guatemala"

El Salvadoreans  
Claim Pollo  
Campero as  
Their National  
Brand



Pollo Campero has built national associations with the brand in other countries as well. The company opened its first restaurants in Guatemala and El Salvador within a year of each other, replicating marketing strategies in the two locations. That is, in El Salvador the brand advertised itself with the slogan "As Salvadorian as You." Many El Salvadorians still erroneously claim that Pollo Campero was founded on their soil, a myth that helps drive company sales.

## Creating a Guatemalan Identity

Pollo Campero's marketing has gone beyond promoting the brand as a national icon. Its television and other advertisements have also been promoting a positive national identity, calling on Guatemalans to unite in working hard and loving their nation. This includes multiple campaigns in the 1970s, 1990s, and 2010s that promote personal change as a way to develop Guatemala, such as "Let's Make Guatemala Our Best Work" and "If We Change, All Will Change." Rather than promoting systemic change of structural issues that contribute to poverty, crime, and violence, the ads promote personal change inside each Guatemalan.



### Cantemos a Guatemala

Pollo Campero released its sentimental jingle "Let's Sing to Guatemala" after the 1976 earthquake (2). Its music and lyrics have not changed since. It calls on Guatemalans to: "all advance together, in the same direction. [To] all work together for the good of the nation. [To] sing for Guatemala, our beautiful and beloved earth... because together we will make a great nation." The song has backed many of Pollo Campero's advertising campaigns.



In all these [advertising] discourses there is a **brutal absence** of the indigenous people. The word "Guatemalan" does not mean anything. What does it mean to be Guatemalan? Here [in this country] there are 200 classes of Guatemalans.

*Research Participant/NGO Worker*

## Brutal Absence of the Indigenous People

Some commentators criticize the images and narratives used in Pollo Campero campaigns for promoting a vision of Guatemala that excludes indigenous people while promoting a Guatemalan identity that does not exist. One analysis of Pollo Campero ads from the 1970s through to the 2010s found that 10 of them represented a high-modernist, industrial country populated with European-looking citizens (2). This contradicts a reality where 73.5% of the population works informally and 38.8% is officially indigenous (3), a contradiction that one research interviewee called "a brutal absence of the indigenous people."

## Creating the Idea of One Guatemala

In March 2017, Pollo Campero launched stage two of its "If we all change, all will change" campaign. The promotion collaged pictures of faces of Guatemalans of different ethnicities. The campaign called for unity in diversity through personal change, hard work, and national pride. The posters read: "16 Million Guatemalans, One Guatemala. If we all change, all will change." These ads were among the first in which Pollo Campero attempted to portray an ethnically-diverse country. However, the underlying message remained the same: The solution to Guatemala's problems lies in personal rather than structural change. The company continued to promote homogenous national subjects, unified in working hard to forge a great nation and in eating Pollo Campero.

"If we all change,  
all will change."



### The businesses of prominent families promote national pride in Guatemala

Pollo Campero is one of at least 26 prominent for-profit and non-profit groups working to forge a sense of pride in the nation and a Guatemalan identity (3, 4, 5). This includes Pollo Campero's parent company, CMI, that belongs to the Gutiérrez-Bosch family. It also includes the Pepsi Guatemorfosis campaign financed and ran by the Castillo-Monge family's Embotelladora La Mariposa, the bottling company that has held exclusive rights to produce, bottle, and distribute Pepsi in Guatemala since 1942. Dubbed the Rockefellers of Guatemala, the Gutiérrez-Bosch lineage is number one on Forbes' list of the most influential families in Central America. Number four on the list is the Castillo-Monge family. These and other prominent families who own much of Guatemala's formal economy maintain close personal networks through friendships and inter-marriages (6). They also coordinate their economic and political activities through powerful business, lobby, and NGO groups. *Guatemaltecos Mejoremos Guatemala* (Guatemalans, Let's Improve Guatemala), for example, is a foundation formed by leading business interests. Promoting national solidarity is one of the organization's three strategies for "increasing the nation's competitiveness for job creation" (7).



# Chicken for the people?



- Poultry companies brand themselves as improving the diets and food security of the population.

Different political and economic interests have promoted the development of Guatemala's poultry industry as benefiting the food security and nutrition of the people. However, despite the rapid growth of the sector and the spread of the consumption of industrial chicken and eggs, Guatemala continues to suffer from multiple malnutrition burdens, old and new.

## Poultry for the People

Business narratives portray the development of the industrial food animal sectors in Guatemala as being for the benefit of its people. In its history of the poultry sector in Guatemala, the industry lobby group, ANAVI, recounts how in the 1960s policymakers and businessmen came together to create fiscal incentives for the domestic poultry industry. As a result, chicken and egg companies enjoyed “exemption from almost all taxes” to “support Guatemala's food security,” leading to the development of a strong poultry sector (8).

Different groups tout food animals as also improving the nutrition of the people. Grupo PAF, the owner of the chicken brand, Pio Lindo, describes itself as providing high-quality chicken and thus “contributing to nutrition in the [Central American] region” (9). Similarly, Granjazul, a leading producer of eggs in Guatemala since the 1960s and a company that boasts over 700,000 birds that produce 400,000 eggs every day, promotes its mission as “contributing to the nutrition of Guatemalan families” (10).

Other food animal sectors are also presented as benefiting the diets of Guatemalans. “El Plan de Tegucigalpa,” for instance, was the manifesto of the party of General Carlos Castillo Armas. The U.S. Central Intelligence Agency (CIA) famously installed the military dictator in 1954 after orchestrating a coup d'état that ousted the democratically-elected regime of Jacobo Árbenz in order to protect American business interests in Guatemala. One of the strategies contained in “El Plan de Tegucigalpa” was to support the development of the beef industry in Guatemala “to improve the nutrition of the [Guatemalan] people” (11).



## Native Proteins

While greater consumption of poultry is a recent phenomenon in Guatemala, local communities have for centuries relied on other, native sources of protein in their diets:

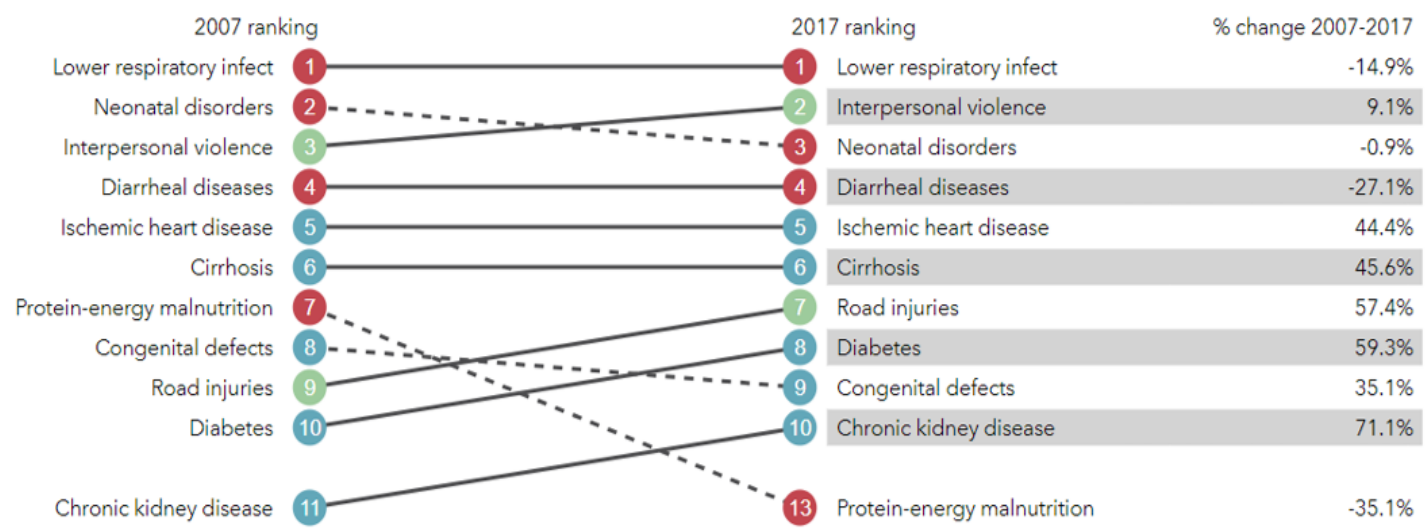
- The Mayan agricultural milpa system is based on intercropping numerous edible plants with the staples of maize, squash, and protein-rich beans. Guatemalan farmers maintain a large diversity of bean seeds, a legume that comes in many shapes and colors.
- Foods from animals offer complete proteins, meaning that they contain the nine amino acids that human bodies need but cannot themselves produce. Some plants also offer complete proteins, such as amaranth that is native to Mesoamerica and quinoa that is native to South America. Amaranth also contains large amounts of iron, magnesium, potassium, phosphorus, and other micronutrients.
- Chaya, a.k.a. “Mayan Tree Spinach,” is another protein-rich crop that is native to Mesoamerica. It additionally contains large amounts of vitamin C, calcium, and iron.

When grown at home for family consumption, native plants like beans, amaranth, and chaya provide free sources of high-quality protein and other nutrients, without the risk of the negative health effects that excessive consumption of industrially-produced food animals can carry. Native proteins can better provide for the food security and nutrition of the population.

## Multiple Burdens of Malnutrition

Despite the rapid growth of consumption of industrial poultry and other animal products, Guatemala suffers multiple forms of food insecurity and malnutrition. More than half of Guatemalan families cannot afford the cost of the basic food basket (12). Meanwhile, the country has the world's fourth-highest rate of chronic child undernutrition and stunting, with indigenous children suffering at twice the rate of non-indigenous children (up to 90% in some regions) (12).

At the same time, the rates of ischemic heart disease and diabetes in adults are rapidly rising. Between 2007 and 2017, ischemic heart disease increased by 44%, becoming the fifth-highest cause of premature death in Guatemala. In the same time period, diabetes rose 59%, becoming the eighth highest cause of premature mortality (13). The chronic diseases are associated with greater consumption of animal and processed foods, including different forms of poultry.



Top 10 causes of premature mortality in Guatemala in 2007 and 2017 (measured in years of life lost (YLLs)) (12).

It is of note that protein malnutrition in Guatemala has reduced by 35% between 2007 and 2017, moving down from the seventh-highest cause of premature death in Guatemala to the thirteenth-highest. However, it is not clear how much of this drop is due to increased consumption of poultry and other food animals and how much is due to public health efforts in the country to address protein deficiencies through plant-based protein sources in fortified foods. For example, Incaparina, a vegetable protein mixture developed by the Institute for Nutrition in Central America and Panama (INCAP), has been promoted in Guatemala for more than 60 years and represents an important and affordable source of protein for many families (14).



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# HEALTH & HYGIENE

## From claims to data

- Companies claim bacteria-free poultry. Chicken contamination studies suggest otherwise.

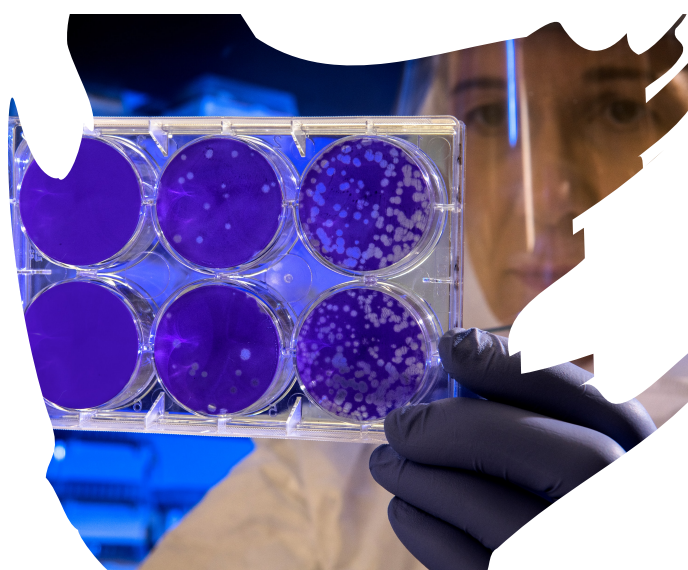
Poor sanitation and public health infrastructures, such as contaminated water sources in markets, mean that poultry is subject to exposure to dangerous enterobacteria, like *Salmonella* and *E. coli*, regardless of how it was produced. This reality puts into question corporate claims and guarantees of bacteria-free products. Front-line persons could partner with businesses to push for public spending on WASH (water, sanitation, and hygiene) as corporations have an interest in protecting their brands' image of "trusted" foods.

### Guatemala's highly-pathogenic food environment

Like many countries with poor sanitation and public health infrastructures, Guatemala has a highly-pathogenic food environment. As a result of poor sanitation, diarrheal disease is still the fourth-highest cause of premature death in the country, down from the first-highest in 1990. It especially affects children.

One of the ways that bacteria spread is through contaminated food and water. Poultry products are one of the main vehicles for spreading foodborne pathogens like *Listeria* (1). Harmful strains of *E. coli*, *Listeria*, *Salmonella*, *Shigella*, and other bacteria contribute to diarrhea's large burden of disease in Guatemala. Consumers are increasingly aware of the dangers posed by contaminated foods because of widespread experiences with foodborne illnesses.

In the highland city of Quetzaltenango, 64% of the population consults public health services for diarrhea. Meanwhile, for every reported case of *Salmonella* 40 likely go unreported. Scientists studying bacterial contamination in the city found 85 strains of *Salmonella* and 113 strains of *Shigella* in their lab analysis of 10,000 human stool and blood cultures (2).



Scientists found 198 strands of *Salmonella* and *Shigella* in 10,000 stool and blood samples in Quetzaltenango.

### Pollo Rey: "My Trusted Chicken"

To set itself apart hygienically, Pollo Rey markets itself with the slogan "Mi Pollo de Confianza," "My Trusted Chicken." It claims to provide "a food solution based on chicken of the highest quality under the strictest hygiene standards" (3).



To compete with the market for backyard, creole chicken, in 2017, Pollo Rey launched its own line of *pollo criollo* poultry. The company used the tag lines "The Great Taste of Our Own" and "Trusted Yellow Chicken."

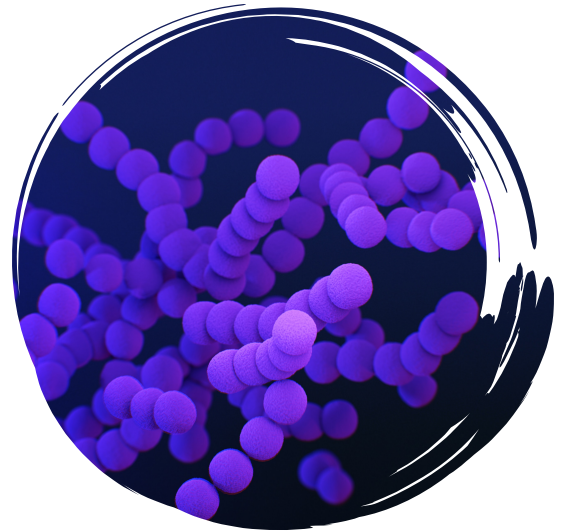
In an interview, a company representative explained that Pollo Rey is combining the chicken Guatemalans already like with the health and safety standards of industrial production to bring the "trusted...chicken" to market. "Why trusted?" she asked rhetorically, because the brand can guarantee that the chickens "do not contain certain bacteria, have not touched dirty floors...that the product is fresh and 100% hygienic." (4)



Pollo Rey's advertisement for its line of creole chicken.



# 50% of chicken is likely contaminated



- *Salmonella*, *E. coli*, and other bacteria are found on chicken in municipal markets, independent stores, and supermarkets.

By claiming to be "100% hygienic" Pollo Rey implies that its competitors, backyard-raised and other sources of chicken, are unsafe and unhygienic options. The brand claims that packaged Pollo Rey products, on the other hand, can be trusted to be bacteria-free.

If Guatemalan consumers bought Pollo Rey products exclusively from sanitized facilities, then perhaps the claims of contamination-free industrial chicken could be substantiated. However, whether the chicken comes from family hatcheries or from corporate factories it comes into contact with pathogens through distribution and retail. Poultry-contamination studies show that chicken bought in different Guatemalan venues, including poultry from leading brands, contain dangerous bacteria.

**1. Municipal markets in Guatemala City.** A 2014 study of 33 chicken samples from a municipal market in Guatemala City found that 55% of them were contaminated with *Salmonella* and *E. coli*, while five out of 11 analyzed tap water sources at the markets also tested positive for *E. coli* (5).

**2. Three different retail spaces around Guatemala.** A 2015 study of samples from 300 chicken carcasses from seven departments in Guatemala found that 36% were contaminated by *Salmonella*. The study tested samples from different retail environments, including municipal markets (n=125), independent butcheries (n=95), and supermarkets (n=80). The researchers found contamination in all three environments: 51.2% of municipal market samples, 29.5% of independent butcher-shop samples, and 13.8% of supermarket samples (6).

The previous two studies do not specify whether they tested industrially produced or backyard-raised chickens. However, they are more likely to be industrial. This is because today factory-farmed poultry dominates retail in Guatemala. In 2019, it is difficult to find backyard creole chicken for sale in municipal markets and independent poultry shops and research confirms that the diversity of creole chicken and other creole animal varieties sold in municipal markets has drastically decreased in recent decades (8).

**3. Criollo eggs in a municipal market.** A 2003 study, however, looked specifically at 32 samples of criollo eggs from backyard production that were sold in Guatemala City's Zone 4 market. It found that none were contaminated with *Salmonella* on the shell or inside the egg, although 59% had visible dirt on the outside (9).

# Antibiotics that are banned in other countries found in Guatemalan meats.

— Almost 60% of tested *Salmonella* strands are resistant to multiple antibiotics, one study shows.

**Pollo Rey sells through 1,000 stores dedicated to selling its poultry and pork products.**

**More research is needed to test company claims of hygienic superiority.**

The contamination figures from Guatemala's different retail environments suggest that around half of the chicken sold in the country is likely contaminated with food-borne pathogens. That is because vendors like butcheries inside and outside municipal markets, where over half of the tested samples were contaminated, made up 74.2% of all meat sales in 2018 (7). Although supermarkets and hypermarkets had less contamination (around a sixth of the samples), they made up just 11.2% of all meat sales in 2018.

Pollo Rey products are sold through all the studied channels: supermarkets, municipal markets, and independent butcheries. The company also distributes its goods through small shops dedicated to Pollo Rey chicken and its sister brand, Toledo pork. There are now around 1,000 of these "Houses of Pollo Rey" in Guatemala (7). Targeted research on these stores is needed to test company claims of uncontaminated "trusted" chicken.

## Animal farming breeds antibiotic resistance

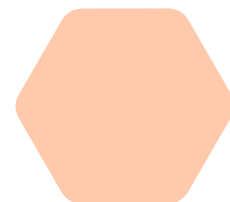
The study of 300 samples from three retail environments also found that 59.2% of the detected *Salmonella* strains were resistant to at least three antibiotics. Bacteria become resistant to antibiotics through the overuse and misuse of drugs in human and animal populations. Poorer countries are subject to "abusive" antibiotic practices because of lower animal husbandry standards and the inability of regulatory bodies to monitor and uphold those standards (10). The U.S. Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) call antibiotic resistance one of the biggest global threats to public health, food security, and development.

While animal producers use antibiotics to prevent and treat disease in farm animals, they also use them because the medicines enhance growth. However, because of their negative effects, some antibiotics have been banned in many countries. Europe has prohibited the use of tetracyclines in animal production because they promote bacterial antibiotic resistance (11). Europe and the United States have also banned the use of Clenbuterol in animal production because it damages heart and lung function in humans. However, producers in many countries still use these growth-promoting substances, including in Guatemala. At the end of the 1990s, a leading national poultry producer was using tetracyclines (12). A 2017 study found that 17 out of 40 beef samples from a municipal market contained levels of Clenbuterol above the residue levels deemed safe for consumption (13).



Part of a CDC infographic on antibiotic resistance (14).

# Native plants have promising antibacterial qualities



Traditional indigenous knowledge could be harvested to treat gastrointestinal infections.

While many bacterial strains are resistant to antibiotics, Guatemala's indigenous farming communities have for centuries used almost 400 native medicinal plants from 95 families to treat gastrointestinal upset. One study tested the most common 84 of those plants for their effects on different strands of *E. coli*, *Salmonella*, and *Shigella*. The researchers found that 40.48% of the plants inhibited one or more of the enterobacteria (15).

Other scientists have also documented the antibacterial and antifungal properties of Guatemalan medicinal plants (16). These studies show that traditional ethnomedicine techniques, like their ethnoveterinary counterparts, hold up under western scientific scrutiny.

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# STRATEGIES FOR CHANGING CHICKEN

## Practical guidelines for acting on chicken

- Frontline persons can support reforms and transformations on the individual, community, industry, infrastructure, and policy levels.

### Educate

Step one in addressing the negative effects of changing chicken in Guatemala is to educate stakeholders about the state of the industry, its history, and its contributions to health and development. The following list compares some of the commonly-made assertions about poultry in Guatemala with the latest scientific evidence on the topic.

#### Assertions

##### Chicken makes a meal



A piece of meat, like chicken, has always been central to the Guatemalan diet. A meal really is not a meal without it. Chicken and other meats make up a "comida completa," a "complete meal."

#### Evidence

##### Chicken is a recent introduction

Historically, food animals featured in local diets in small doses and most meals were considered complete if they contained maize products. Chickens came to the continent over 500 years ago but became a big part of Guatemalan diets only in the last few decades. The big jump occurred because businesses pushed for favorable policies for production and used advertising to drive consumption.

##### Poultry is cheap protein



Chicken is a cheap source of protein for many Guatemalans and thus contributes to food security and nutrition of the population. Without chicken, people could not affordably meet their protein needs.

##### Native protein is the cheapest

Dollar for dollar, Chicken in Guatemala costs the same or more as in the United States. While chicken is the cheapest of the available animal meats, families can grow plant sources of protein, such as beans, amaranth, and chaya for free. These native crops do not need expensive inputs like pesticides to thrive in local conditions. They also contain many other important vitamins and minerals.

##### Poultry helps the economy



Industrial poultry is important to Guatemala's national economy. It accounts for 2% of the country's GDP and directly provides 35,000 jobs.

##### Poultry does little to help the poor

These economic benefits accrue mainly to the country's most powerful families, like the Gutiérrez-Bosches who own Pollo Campero and Pollo Rey. From the 1960s, the poultry industry paid few taxes that could benefit the rest of the population through government services. Meanwhile, one-third of the chicken consumed in Guatemala is imported from the U.S. and another third of the chicken and 20% of the eggs flow in as "contraband" from Mexico. This helps the economies of those countries and not Guatemala. Meanwhile, industrial poultry is rapidly displacing the local markets for creole chicken and eggs produced by indigenous and non-indigenous women, thus taking away an important source of income from marginalized groups.



## Assertions

### Chicken is the Guatemalan way



Companies like Pollo Campero are national treasures that represent a Guatemalan way of eating.

### Industrial Poultry is Safe I



Industrial poultry is a more hygienic and safer option because factories follow food safety standards that informal producers do not. I am less likely to get sick from contamination by *Salmonella* or *E. coli* on industrial chicken than on backyard chicken.

### Industrial Poultry is Safe II



Industrial poultry is safer because it uses state of the art veterinary medicine, like antibiotics, to treat sick animals.

## Evidence

### Advertising Creates National Associations

Pollo Campero and other companies use marketing techniques to build positive and nationalist associations with their brands. The businesses do the same in other countries like El Salvador. There is nothing "naturally" Guatemalan about eating chicken in Pollo Campero. The idea has been constructed by advertising.

### No Food is Safe Without Sanitation

The production method is not the most vital factor in the risk of bacterial contamination of chicken. The state of hygiene of the distribution and retail of poultry plays a more important role. Guatemala still lacks sanitation facilities and institutions, like clean water sources in markets and a culture of frequent handwashing with soap. Studies show high rates of bacterial contamination of industrial poultry because it is sold in highly-pathogenic environments.

### Chicken Adds to Antibiotic Resistance

Antibiotics can be useful to treat bacterial infection in farm animals. However, antibiotics are routinely misused in industrial farming. That is because they can be used to stimulate animal growth rather than purely for medicinal purposes. Overuse of antibiotics in poultry farming has contributed to antibiotic resistance in harmful bacteria, one of the biggest global threats to public health and safety. The problems can be worse in poorer countries like Guatemala because of little transparency into industry practices, lax regulatory environments, and poor enforcement of existing regulations.

## Support

Education is a necessary but insufficient step in helping to change chicken for the better. Below is a list of suggestions for how funders and frontline persons can shape poultry production and consumption practices that support poverty reduction, greater food security, and better nutrition for all of Guatemala's communities, especially the most marginalized.

### Work for Industry Reform



- Challenge industry claims through reports, magazine or newspaper articles, and on social media.
- Work on passing Guatemalan laws on transparency in chicken production and on truthful advertising.

### Valorize Indigenous Culinary Knowledge



- Fund projects that seek to catalog indigenous culinary knowledge, documenting important harvesting, processing, and cooking techniques of native crops in present-day Guatemala.
- Work to valorize indigenous women as important knowledge bearers of cuisines based on native foods that can contribute to human health and environmental sustainability.
- Make strategic alliances with other food movements, such as organics and permaculture, to highlight native, plant-based diets as examples of a healthy and sustainable future rather than an outmoded, traditional past.



### Promote Native Plant-Based Nutrition



- Petition groups, like the World Health Organisation, that continue to promote animal proteins as an answer to malnutrition in countries like Guatemala to change their recommendations and policies.
- Promote local consumption of nutritious native plants like legumes, amaranth, and chayá.

### Promote Justice-Based Diets

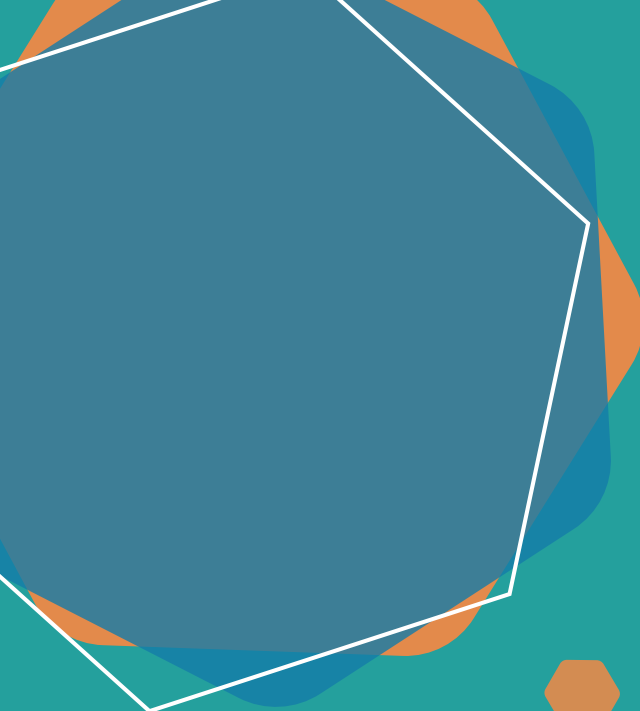


- Educate stakeholders about who benefits from industrial poultry production and who loses out, promoting family production, consumption, and retail of creole chicken and eggs that contribute to community economies.
- Share the colonial and neocolonial histories of chicken in Guatemala to denaturalize the place of poultry in local ideas about how Guatemalans eat.

### Push for Public Sanitation



- Work with food industries, the government, and public health organizations to improve basic sanitation infrastructures, like clean, potable water, and promote hygienic cultures, such as handwashing with soap.



Helping to Understand and Address the Complex Problem of  
Industrial Food Animal Production Around the Globe

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